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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/447,501	11/23/1999	LANDY WANG	2260	3903

7590 11/21/2002

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EXAMINER
ANYA, CHARLES E

ART UNIT	PAPER NUMBER
2126	

DATE MAILED: 11/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/447,501	WANG ET AL.	
	Examiner	Art Unit	
	Charles E Anya	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3/ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 27-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 27-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 16 and 27 – 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,047,124 to Marsland in view of Geist Jr.

As to claim 1, Marsland teaches a Computer System (System 10), a method for monitoring drivers (Method for tracing of Device Drivers Col. 5, Ln. 50 – 67, Col. 6, Ln. 1 - 43), receiving a request from a driver (Col. 5, Ln. 45 – 49), determining that the driver is to be monitored (Col. 5, Ln. 38 – 67), taking action in the driver verifier to monitor the driver (Driver Trace 63 Col. 6, Ln. 3 – 14).

Marsland does not explicitly teach re-vectoring the request to a driver verifier. Geist Jr. teaches re-vectoring the request to a driver verifier (Thunking Col. 7, Ln. 14 – 62). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification so that tracker NLM can identify whenever a memory allocation, deallocation or reallocation call occurs and make record of that call (Col. 7, Ln. 25 – 29).

As to claim 2, Marsland teaches the step of receiving a request from a driver to include receiving a function call in a kernel component (Col. 4, Ln. 48 – 52).

As to claim 3, Marsland does not teach the step of checking a registry setting.

Geist Jr. teaches teach the step of checking a registry setting ("...flag..." Col. 9, Ln. 9 – 15). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification to prevent thunks from being called before ABLK and MSG pool initialization (Col. 9, Ln. 9 – 15).

As to claim 4, Marsland teaches a memory allocation request (Event Type Col. 6, Ln. 3 – 25) and the step of taking action includes allocating memory space from a special pool of memory (Col. 6, Ln. 20 – 25).

As to claim 5, Marsland is silent with regards to marking memory bounding to detect improper memory access.

Geist Jr. teaches marking memory bounding to detect improper memory access ("...duplicate block..." Col.11, Ln. 16 – 22). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification to identify the block of memory causing errors (Col. 11, Ln. 16 – 22).

As to claim 6, Marsland is silent with regards to a memory deallocation and marking deallocated memory space to detect improper access of the deallocated memory space.

Geist Jr. teaches a memory deallocation (Col. 10, Ln 53 – 58) and marking deallocated memory space to detect improper access of the deallocated memory space (Col. 11, Ln. 8 – 11). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification to identify the block of memory causing errors (Col. 11, Ln. 16 – 22).

As to claim 7, Marsland is silent with regard to the step of taking action that includes maintaining allocation information in at least one data structure associated with the driver.

Geist Jr. teaches the step of taking action that includes maintaining allocation information in at least one data structure associated with the driver (ABLK/MSG Col. 8, Ln. 17 – 29). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification in order to later generate a log file (Col. 8, Ln. 32 – 35).

As to claim 8, claim 5 meets claim 8 except for the step of adding data corresponding to the allocation request to the data structure.

Marsland is silent with regard to the step of adding data corresponding to the allocation request to the data structure.

Geist Jr. teaches the step of adding data corresponding to the allocation request to the data structure (Col. 8, Ln. 17 – 29).

As to claim 9, claim 6 meets claim 9, except for the step of removing data corresponding to the allocation request from the data structure.

Marsland is silent with regard to the step of removing data corresponding to the allocation request from the data structure.

Geist Jr. teaches the step of removing data corresponding to the allocation request from the data structure (Col. 10, Ln. 53 – 58).

As to claim 10, Marsland teaches a User Interface (Block 64, Col. 5, Ln. 64 – 67, Col. 6, Ln. 1 – 2).

As to claim 11, Marsland teaches the step of taking action to include validating call parameters (Col. 5, Ln. 20 – 29).

As to claim 12, see the rejection of claim 6.

As to claim 13, Marsland is silent with reference to the step of taking action that includes simulating a low resource condition.

Geist Jr. teaches the step of taking action that includes simulating a low resource condition (Col. 10, Ln. 25 – 44).). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification to perform error checking (Col. 10, Ln. 35 – 38).

As to claim 14, Marsland is silent with reference to the step of simulating that includes failing requests for memory pool allocation.

Geist Jr. teaches the step of simulating that includes failing requests for memory pool allocation (Col. 10, Ln. 25 – 44).

As to claim 15, Marsland is silent with reference to the step of simulating that includes invalidating driver code and data.

Geist Jr. teaches the step of simulating that includes invalidating driver code and data (Col. 10, Ln. 25 – 44).

As to claim 16, Marsland does not explicitly teach the step of taking action that includes checking for timers in deallocated pooled memory.

Marsland does teach a time stamp events (Col. 2, Ln. 5 – 10). This inherently means that every event that occurs is time stamped including deallocation of pooled memory.

As to claim 27, claims 1, 4 and 5 meets claim 27 except for restricting access to area bounding the location.

Marsland and Geist Jr. do not explicitly teach restricting access to area bounding the location. However, Geist Jr. teaches having the "Malloc" return the address of the allocated block and of a specified size (Col. 6, Ln. 60 – 67). This implies that this specified address is only allocated to a particular driver thereby making it restricted to the driver.

As to claim 28, see the rejection of claim 5.

As to claim 29, claim 6 meets claim 29 except for restricting access to deallocated memory space.

Marsland does not teach restricting access to deallocated memory space.

Geist Jr. teaches deallocation of memory (Col. 10, Ln. 45 – 63). It is inherent that all deallocated memories are inaccessible until it is allocated, more especially since every driver must make a memory request before memory is actually allocated.

As to claim 30, see the rejection of claim 6.

As to claim 31, claims 1,4 – 6 meets claim 31 except for determining from the tracking whether space remains allocated to the driver at a time when the driver should have no space allocated.

Geist Jr. teaches the step of determining from the tracking whether space remains allocated to the driver at a time when the driver should have no space allocated (Col. 6, Ln. 9 – 15). It would be obvious to include the teaching of Geist Jr. to the system of

Marsland. One would have been motivated to makes such modification to find memory allocation problems (Col. 6, Ln. 6 – 12).

As to claim 32, claim 31 meets claim 32 except for the step of generating an error.

Marsland is silent with regard to the step of generating an error.

Geist Jr. teaches the step of generating an error (Freed NULL Col. 11, Ln. 12 – 22). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification to identify the block that is causing the error (Col. 11, Ln. 12 – 22).

As to claim 33, Marsland is silent with regard to the step of examining lists maintained by a system kernel.

Geist Jr. teaches the step of examining lists maintained by a system kernel ("message block structure...". Col. 11, Ln. 12 – 22). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification to identify the block that is causing the error (Col. 11, Ln. 12 – 22).

As to claim 34, Marsland is silent with regard to the step of maintaining information tracking memory allocated to the driver and deallocated.

Geist Jr. teaches the step of maintaining information tracking memory allocated to the driver and deallocated (Col. 11, Ln. 12 – 22). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification to identify the block that is causing the error (Col. 11, Ln. 12 – 22).

As to claim 35, claim 1 meets claim 35 except for an operating system that includes an interface.

Marsland teaches an operating system that includes an interface (Network Interface 23 Col. 4, Ln. 48 – 52).

As to claim 36, Marsland teaches a Kernel Component (Kernel Memory Space 14 Col. 3, Ln. 28 – 38).

As to claim 37, see the rejection of claim 3.

As to claim 39, see the rejection of claims 4 and 5.

As to claim 40, see the rejection of claim 6.

As to claim 41, Marsland teaches the step of examining resources allocated to the driver (Col. 2, Ln. 5 – 10).

As to claim 42, Marsland is silent with regard to the step of tracking outstanding memory allocated to the driver.

Geist Jr. teaches the step of tracking outstanding memory allocated to the driver (ABLK Col. 7, Ln. 30 – 36). It would be obvious to include the teaching of Geist Jr. to the system of Marsland. One would have been motivated to makes such modification so that the log file generator can report the content of ABLK (Col. 8, Ln. 32 – 35).

As to claim 43, Geist Jr teaches the step of reviewing lists maintained by the operating system component for information therein associated with driver (Col. 10, Ln. 45 – 58).

As to claim 44, see the rejection of claim 11.

As to claim 45, see the rejection of claim 14.

As to claim 46, see the rejection of claim 15.

As to claim 47, see the rejection of claim 16.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Anya whose telephone number is (703) 305-3411. The examiner can normally be reached on M – F (First Friday Off) from 8:30 am to 5:30 pm.

The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Charles E Anya
Examiner
Art Unit 2126

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